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		Application No.	Applicant(s)	
Office Author O		10/502,210	HAAS ET AL.	
	Office Action Summary	Examiner	Art Unit	
		Anish Desai	1771	
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2a)⊠	Responsive to communication(s) filed on 10 O. This action is FINAL. 2b) This Since this application is in condition for allower closed in accordance with the practice under E.	action is non-final. nce except for formal matters, pro		
Dispositi	on of Claims			
5)	Claim(s) 1-4 and 6-34 is/are pending in the appear of the above claim(s) is/are withdraw Claim(s) is/are allowed. Claim(s) 1-4,6-13 and 16-34 is/are rejected. Claim(s) 14-16 is/are objected to. Claim(s) are subject to restriction and/or on Papers The specification is objected to by the Examine The drawing(s) filed on is/are: a) access Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examine The oath or declaration is objected to by the Examine Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examine The oath or declaration is objected to by the Examine Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examine The oath of the oath or declaration is objected to by the Examine The oath	wn from consideration. r election requirement. r. epted or b) objected to by the Edrawing(s) be held in abeyance. See ion is required if the drawing(s) is objected to by the drawing(s) is objected to by the Edrawing(s) is objected to by the	e 37 CFR 1.85(a). ected to. See 37 CFR 1.121(d).	
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2) D Notic 3) Inform	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948) nation Disclosure Statement(s) (PTO/SB/08) r No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal Pa	te	

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DETAILED ACTION

The applicant's arguments in response to the Office action dated 07/18/06 have been fully considered.

- 1. Claims 1-4 and 6-34 are pending. Claim 5 is cancelled. Support for amended claims is found in the specification.
- 2. Claims 3, 9, and 24 are objected.
- 3. All of the 112 rejections are withdrawn in view of the present amendment and response (see page 8-9 of 10/10/06 amendment). However, upon further consideration a new 112-type rejection is made for claims 3 and 9.
- 4. Art rejections of Perez et al. (WO 02/00982A1) taken alone and in combination with of Pedginski et al. (US 5,807,632) and Kretman et al. (US 6,497,946 B1) are maintained. Art rejections of Perez in combination with Mody et al. (US 5,605,729) are withdrawn in view of the present amendment and response (see page 15 of 10/10/06 amendment). The combination of Mody with Perez was improper because such combination would not read on a security substrate as claimed.
- 5. Claims 19 and 30 were improperly rejected under 102/103-type rejection in view of Perez et al. (WO 02/00982A1). Claims 19 and 30 are now rejected under 103-type rejection in view of Perez et al. (WO 02/00982A1).

Claim Objections

6. Claims 3, 9, and 24 are objected to because of the following informalities:
Claims 3 and 9 recites various security elements. It is noted that many of these security elements are recited twice (see for example reverse printing and liquid crystals).

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Applicant is required to delete such duplication. Claim 24 recites "Newtons", it should be changed to "Newton".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3 and 9 recite "other three-dimensional elements". It is unclear as to what other "three-dimensional elements" the applicant is referring to without specifically specifying any other three-dimensional elements.

Allowable Subject Matter

8. Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The most pertinent is WO 02/00982A1 to Perez et al. Perez does not teach or suggest security element comprising plurality of laterally spaced cores embedded in the thermoplastic film layer, core comprising a thermoplastic polymer having dyes or pigments, or color shifting, polarizing, fluorescent, luminescent, phosphorescent, reflective, metallic, or magnetic particles dissolved or dispersed therein, and core comprises a colored, phosphorescent, pearlescent or fluorescent polymer. Further, there is no motivation to modify Perez to render limitations of claims 14-16 as obvious.

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-4, 6-11, 13, 17-18, 20-21, 23-29, and 31-34 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Perez et al. (WO 02/00982A1) substantially as set forth in 07/18/06 Office Action. US 6,468,451 to Perez et al. is relied on as an equivalent form of WO 02/00982A1 for convenience.

Perez teaches a high-melt strength oriented polypropylene foam articles (Column 1, lines 1-7). Additionally, at Column 14, lines 23-25, Perez teaches that polypropylene foam articles are suitable as receptive surface for printing. Thus, the printed surface of Perez (or printing on the surface) reads on the security element. Although Perez does not explicitly disclose a security element provides visual or electronic authentification of the security substrate, since a printed indicia is considered to be a security element by the applicant (see specification and claim 3), the aforementioned polypropylene foam of Perez with print receptive surface is considered to be capable of providing visual authentification of the security element. With respect to claim 2, Perez does not explicitly teach that the visual security element changes appearance in a reversible, predictable and reproducible manner by the application of hear or pressure, by variation in the angle of viewing, or by the adjustment of lighting conditions. However, as previously noted since the printed indicia is considered to be a visual security element by the applicant and the fibrillated polypropylene foam articles of Perez are print

receptive, it is the examiner's position that the printing of Perez is capable of changing its appearance in a reversible, predictable and reproducible manner by application of heat or pressure, by variation in the angle of viewing, or by the adjustment of lighting conditions. Regarding claim 3, the print receptive surface of the polypropylene foam of Perez is capable of being printed and it reads on the limitation of printed indicia. Additionally with respect to claim 3, the foam article of Perez also comprises fibers (Figure 5), which reads on the limitation fibers. With respect to claim 4, Perez teaches fibrillation of the foam using a mesh pattern support screen, the resulting schistose surface bears a pattern resembling the wrap and weft of a textile (Column 12, lines 20-25), which reads on security element is an embossment. Further although Perez does not explicitly teach that the embossment provides substantially transparent region, however as previously noted the foam of Perez is embossed and the foam of the applicant is also embossed, therefore substantially transparent region would have been present.

With respect to claim 6, Perez teaches a release coating comprising thermoplastic film (Column 16, lines 11-12) that is applied to the foam backing (Column 15, lines 48-50, Column 14, line 67). The release coating (release liner) of Perez comprising thermoplastic film reads on the thermoplastic film layer. With respect to claims 7 and 8, the thermoplastic film layer of the Perez comprises pigments, which are considered to be a security element integral to the thermoplastic film layer as claimed. With respect to claim 8, the printed surface of the polypropylene foam article of Perez reads on the security element integral to the foam layer as claimed. Regarding claim 9,

the printed surface of Perez reads on the security element selected from the group of printed indicia as claimed in the claim 9. With respect to claim 10, Perez does not explicitly teach the claim limitation of claim 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to allow the security element to be revealed through a substantially transparent region in said foam layer in the thermoplastic film layer in the invention of Perez, motivated by the desire to enhance the aesthetics of the fibrillated foam articles of Perez.

Regarding claim 11, Figures 5 and 6 of Perez discloses fibers that are on top of each other. Note that the security element of the applicant can also be fibers (specification), therefore it is the examiner's position that fibers of Perez read on at least two security elements, which in registration provide a visual security element as claimed. Regarding claim 13, the pigments of the thermoplastic film layer of Perez as disclosed above reads on the claimed core.

With respect to the recitation "security element is coextruded with said foam layer by an inclusion extrusion process" (claim 17), "security element is coextruded with said film layer by an inclusion coextrusion process" (claim 18), "thermoplastic film layer is co-extruded with said film layer by an inclusion exclusion process" (claim 20), "security element is coextruded with said film layer by an inclusion coextrusion process" (claim 21) are directed towards product by process limitations. The products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The

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patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 218 USPQ 289, 292 (Fed. Cir. 1983). In the instantly claimed invention, the applicant is using an oriented, high melt-strength polypropylene foam layer, a thermoplastic film layer, and a security element. Perez also teach high meltstrength polypropylene foam wherein the polypropylene foam has print receptive surface and a thermoplastic film layer, additionally the thermoplastic film layer of Perez comprises pigments.

With respect to claim 23, Perez is silent as to teaching of orientation of the thermoplastic film, which meets the claim limitation of unoriented thermoplastic film layer. Regarding claim 24, although Perez does not teach the presently claimed properties of the multilayer article having a bending stiffness of at least 40 Newton, it is reasonable to presume that the high melt strength polypropylene foam layer with the release liner (thermoplastic film layer) of Perez has the bending stiffness of at least 40 Newton because like material has like property. As disclosed above, Perez teaches the same type of oriented, high melt strength polypropylene foam layer and thermoplastic

film layer as claimed by the applicant, therefore the presently claimed property of bending stiffness of at least 40 N would have been present. Note that the release liner of Perez with the high melt strength polypropylene foam layer of Perez collectively read on the multilayer article.

With respect to claim 25, the melt-strength of polypropylene is in the range of 30 to 55 cN (Column 2, lines 63-65). With respect to claim 26, the polypropylene foam is stretched biaxially (Column 8, lines 50-51). Regarding claims 27-29, Perez teaches the foamable polypropylene consist of blends of propylene homopolymers and copolymers having 50 wt % or more propylene monomer (Column 3, lines 25-27). Moreover, Perez teaches propylene copolymer include random, block, and graft copolymers of propylene and olefin monomers selected from the group consisting of C3-C8 alpha olefins and C4-C10 dienes (Column 3, lines 32-36). Perez further teaches that other polymers such as ethylene/acrylic acid and ethylene vinyl acetate can be added to the polypropylene. Ethylene/acrylic acid and ethylene vinyl acetate are semicrystalline polymers. Regarding claim 31, the foam article of Perez comprises fibers, which reads on the claim limitation of a security element dispersed in said foam layer. With respect to claim 32, the printed surface of the foam layer of Perez reads on the security element is laminated to said foam layer as claimed. With respect to claim 33, although Perez does not specifically disclose a security document, since it has been held that the recitation with respect to the manner in which a claimed security substrate is intended to be employed does not differentiate the claimed printable substrate from a prior fibrillated foam satisfying the claimed structural limitations, the invention of Perez is capable of

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functioning as a security document and therefore meets the claimed intended use recitation. With respect to claim 34, Perez discloses foams having average cell sizes less than 100 micrometers (column 8, lines 42-43). Accordingly, Perez anticipates or strongly suggests the claimed subject matter.

10. Claims 19 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (WO 02/00982A1).

With respect to claim 19, although Perez does not explicitly teach two high meltstrength oriented polymer foam layer having thermoplastic film disposed between them,
it would have been obvious to one having ordinary skill in the art at the time the
invention was made to have thermoplastic film disposed between two high melt strength
oriented polymer foam layers, motivated by the desire to enhance the strength of the
article resulting from such an arrangement. Similarly, regarding claim 30, Perez does
not explicitly teach security element on a surface of the foam layer. However, Perez
does not exclude printing on the non-fibrillated surface (i.e. foamed surface). Thus, in
absence of any unexpected results, it would have been obvious to one having ordinary
skill in the art at the time the invention was made to print on the foamed surface of the
articles of Perez, motivated by the desire to enhance the aesthetics of the articles.

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11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (WO 02/00982A1) in view of Pedginski et al. (US 5,807,632) substantially as set forth in 07/18/06 Office Action.

The invention of Perez as applied to claims 1 and 6 is previously disclosed.

Perez is silent with respect to teaching the thermoplastic film layer is oriented.

However, Pedginski teaches a release coated film wherein the release coated film can be oriented (column 4, line 19). Additionally, Pedginski teaches that the orientation increases the tensile strength of the film and results in a thinner release material layer, thereby giving improved performance and economy (column 10, lines 63-67). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to orient the thermoplastic film (release coating) of Perez, motivated by the desire to enhance the tensile strength of the thermoplastic film (release coating).

12. Claims 1, 6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (WO 02/00412 A2) in view of Kretman et al. (US 6.497.946 B1) substantially as set forth in 07/18/06 Office Action.

The invention of Perez is previously disclosed. Additionally, Perez teaches high melt strength polypropylene foam that can be used in applications such as a diffuse reflector (abstract). Further WO 02/00412 teaches useful laminated constructions include the high melt strength polypropylene foam layer with a thermoplastic film layer (page 17, lines 1-2). WO 02/00412 is silent with respect to teaching a polarizing element. However, Kretman teaches diffuse reflective articles (abstract). Further, Kretman discloses diffuse reflective article comprising polarizing film (column 11, lines

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9-17). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polarizing film of Kretman to create diffuse reflective article because such is an intended use of the high melt strength polypropylene foam Perez.

Response to Arguments

13. Applicant's arguments filed 10/10/06 have been fully considered but they are not persuasive.

102/103-type rejections of Perez are maintained for the following reasons.

The applicant argues that Perez discloses printing on the fibrillated surface (column 14, lines 22-26) and Perez provides no teaching or suggestion that the fibrillated article could be use for authentification purposes (page 10 of 10/10/06 amendment). The examiner respectfully disagrees. The examiner recognizes that the disclosure of Perez cited by the applicant is referring to the printing on the fibrillated surface, however claim 1 as recited does not provide any indication as to the spatial relationship of security element and the foam layer. Thus, the security element does not necessarily have to be on the <u>foamed surface</u> of the foam layer. Further, as previously noted in the 07/18/06 Office Action (pages 11-12), Perez discloses that certain areas of the foam can be masked to keep them free from fibrillation. Thus a fibrillated foam article of Perez may have certain areas that are not fibrillated.

With respect to applicant's argument regarding claim 2 (page 10 of 10/10/06 amendment), please see the examiner's rejection of claim 2 above.

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The applicant argues that the fibers of the reference of Perez are randomly oriented and cannot be relied upon to convey any visual security element because fibers of Perez are randomly oriented, whereas the applicant contemplates a fiber integral to security substrate that may be visually detected to confer authentification (page 10 of 10/10/06 amendment). The examiner recognizes such contemplation by the applicant, however said contemplation is not commensurate in scope with the claim. Claim recites "The security element of claim 2 where in said visual security element is selected from the group of printed indicia...fibers...of the above." Claim does not teach or suggest anything regarding "fiber integral to security substrate".

The applicant argues that as claimed in claim 7, there is no teaching of security element is integral to the thermoplastic film layer in the reference of Perez (page 10 of 10/10/06 amendment). Further the applicant argues that there is no teaching or suggestion that the pigments in the release liner (thermoplastic film) of Perez provide visual authentification. The examiner recognizes that Perez does not explicitly teach visual authentification. However, note that claim 7 depends from claim 6 and claim 6 depends from claim 1, none of these claims teach or suggest any structural or compositional limitation associated with the security element. Thus, in absence of any structural or compositional attributes to security element, the pigments in the release liner (thermoplastic film) of Perez are capable of functioning as a security element. Additionally, these pigments are part of the release layer and thus meets the claim limitation of security element is integral to the thermoplastic film layer.

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The applicant argues that the fibers of Perez are randomly oriented and convey no information such that it can be used for authentification and thus cannot teach the claim limitation of claim 11. Additionally applicant argues that registration refers to proper alignment or position. The examiner disagrees. The applicant's arguments are not found persuasive in determination of patentability because said arguments are not commensurate in scope with the claim. Nothing in claim teaches or suggests that visual security element is in proper alignment or position. Additionally note that claim 11 depends from claim 6 and claim 6 depends from claim 1, none of these claims recite any structural or compositional limitation associated with the security element. Further fibers are considered to be a security element (see claim 3) and as previously noted Perez teaches such fibers that are on top of each other (see page 6 of 07/18/06 Office Action). Thus, Perez meets the claim limitation of claim 11.

With respect to applicant's arguments regarding claims 17 and 18, the applicant argues that since Perez does not teach or suggest the core, so the co-extrusion process should be given patentable weight. The examiner respectfully disagrees because as stated above in this and in previous Office Action, it is shown that Perez discloses a core (see page 6 of 07/18/06 Office Action). Therefore, co-extrusion process is a product by process limitation and is not given any patentable weight.

The applicant argues that the polymers of release liners (thermoplastic film layer) of Perez do not coincide with the applicant's stiff polymers useful in forming thermoplastic film layer. Thus, the applicant argues that Perez does not teach bending stiffness of at least 40 Newton as claimed. The examiner respectfully disagrees. The

applicant's arguments regarding the polymers of release liners are found not persuasive in determination of patentability because said arguments are not in commensurate in scope with the claim. Nothing in claims teaches or suggests anything regarding chemistry of the thermoplastic film layer. Claim only recites "thermoplastic film layer" (see claim 6 from which claim 24 depends from) and the release liner of Perez is also formed of thermoplastic film forming polymers (column 16, lines 11-13). Note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

The applicant argues that Perez does not teach or suggest printing on the foam surface but rather teaches to print on a fibrillated surface. The examiner recognizes that Perez discloses printing on a fibrillated surface. However, Perez does not exclude printing on the non-fibrillated surface (i.e. foamed surface). Thus, in absence of any unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to print on the foamed surface of the articles of Perez, motivated by the desire to enhance the aesthetics of the articles.

With respect to applicant's arguments regarding claim 31, the examiner acknowledges the applicant's comments and respectfully asks the applicant to review the examiner's rejection of this claim in the previous Office Action (see page 8 of 07/18/06 Office Action), particularly that the foam article of Perez comprises fibers. Regarding claim 32, it is argued that the applicant contemplates many embodiments where a separate elements such as holographic film or and RFID tag is laminated to the article for authentification purposes. Perez contemplates only two additional layers,

adhesive and release liners, neither of which are security elements. Further, the adhesive layer and the release liner are described as a coating and not lamination. The applicant's arguments are not found persuasive in determination of patentability because said arguments are not in commensurate in scope with the claims. Nothing in the claim teaches or suggests anything about holographic film or RFID tag that is laminated to the article. Accordingly art rejections are maintained.

Regarding the 103 rejection of claim 22 over Perez and Pedginski (US 5,807, 632), the applicant has generally asserted his/her disagreement with the examiner's rejection but did not specifically point out supposed errors in the examiner's rejection.

Therefore, the examiner's comments set forth about in this and in previous Office Action are considered to be equally pertinent to the rejection of these claims.

103 type rejections of Perez and Kretman et al. (US 6,497,946) are maintained for the following reasons.

The applicant argues that Kretman does not teach or suggest a security element. Additionally the applicant argues that although Kretman contemplate polarizing film, they are used in a different construction (page 15 of 10/10/06 amendment). The examiner respectfully disagrees. The examiner has not relied on the secondary reference of Kretman to teach a security element but rather on the primary reference of Perez, which teaches a structure equivalent to a security element. Additionally, the articles of Perez are useful as diffuse reflector (abstract). However, Perez does not provide the structure of the diffuse reflector. As such it is necessary to look to the art for suitable structures. The secondary reference of Kretman is relied on to teach a

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polarizing element. Kretman discloses diffuse reflector comprising polarizing film (column 11, line 17). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polarizing film of Kretman to create diffuse reflective article of Perez, motivated by the desire to successfully practice the invention of Perez. Accordingly art rejections are maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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APD

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